WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a ground film; and

a crystalline insulation film formed on the ground film, made of ABO_3 perovskite type oxide dielectric material and having an interface that lies halfway between upper and lower surface of the film.

2. The semiconductor device according to claim 1, wherein the interface lies in a plane perpendicular to a direction of thickness of the ground film.

3. The semiconductor device, comprising:

a ground film; and

a crystalline insulation film made of the ABO_3 perovskite type oxide dielectric, wherein the B is Zr and Ti, and the molar ratio of the Zr to the sum of the Ti and the Zr at least in the upper surface of the crystalline insulation film is 0.3 or less.

4. The semiconductor device according to claim 3, wherein the molar ratio of the Zr to the sum of the Ti and the Zr in the lower surface of the crystalline insulation film is 0.3 or less.

5. A semiconductor device manufacturing method, comprising a process for forming a crystalline insulation film made of an ABO_3 perovskite type oxide dielectric on the ground film, a process for forming an amorphous film, which is to be the crystalline insulation film, on the ground film and a process for

forming the crystalline insulation film by crystallizing the amorphous film at least from the upper surface side thereof.

6. The semiconductor device manufacturing method according to claim 5, wherein, of the ABO_3 perovskite type oxide dielectrics, the A is a substance including at least one element selected from among Pb, Ba and Sr, while the B is a substance including at least one element selected form among Zr, Ti, Ta, Nb, Mg, W, Fe and Co.

7. The semiconductor device manufacturing method according to claim 5, comprising one of a process for introducing the oxygen at least onto the upper surface of the amorphous film prior to the crystallization thereof and a process for forming an amorphous film, having a smaller thickness and a high oxygen content than those of the amorphous film, at least on the upper surface of the amorphous film.

8. The semiconductor device manufacturing method according to claim 5, further comprising a process for introducing a material, whose temperature at which the crystallization starts is lower than that of the material constituting the amorphous film, at least onto the upper surface of the amorphous film prior to the crystallization of the amorphous film.

9. The semiconductor device manufacturing method according to claim 5, wherein the composition ratio of

the A-site atom of the amorphous film is set in one of two manners, in one of which the ratio is lower at the interface than at the upper surface and in the other of which the ratio is lower at the upper and lower surfaces than at the interface.

10. The semiconductor device manufacturing method according to claim 5, wherein the composing ratio of the B-site atom of the amorphous film is set selectively so that the temperature, at which the crystallization of the amorphous film starts, is set to decrease gradually from the central portion of the amorphous film towards the upper surface side and the interface.

11. The semiconductor device manufacturing method according to claim 5, further comprising a process for forming a crystallization accelerating film, having a higher crystal orientation than that of the ground film, on the amorphous film prior to the crystallization of the amorphous film.

12. The semiconductor device manufacturing method according to claim 11, further comprising a process for removing the crystallization accelerating film after crystallization of the amorphous film.

13. The semiconductor device manufacturing method according to claim 11, wherein the crystallization accelerating film is one of a single-layer film and a laminate film made of at least one film selected from

among the group of MgO film, Al_2O_3 film, Sapphire film, $Y_3Fe_5O_{12}$ film, $(YGd)_3FeO_{12}$, Ag film and Pt film.

14. The semiconductor device manufacturing method according to claim 11, wherein the constituting material of the crystallization accelerating film is an insulation material; an opening is formed in the crystallization accelerating film after crystallization of the amorphous film; further a process for forming an electrode to be connected with the crystalline insulation film through the opening is provided.

15. The semiconductor device manufacturing method according to claim 5, wherein the crystallization of the amorphous film from the side of the ground film is inhibited in the process for forming the crystalline insulation film.

16. The semiconductor device manufacturing method according to claim 5, wherein a crystallization inhibiting film, whose temperature at which the crystallization starts is higher than that of the amorphous film, is formed on the ground film, and, by forming the amorphous film on the crystallization inhibiting film, the crystallization of the amorphous film from the side of the interface with the ground film is inhibited in the process for forming the crystalline insulation film.

17. The semiconductor device manufacturing method according to claim 16, wherein the crystallization

inhibiting film has a crystal orientation characteristic lower than that of the ground film.

18. The semiconductor device manufacturing method according to claim 16, wherein the crystallization inhibiting film is one of a single-layer film and a laminate film made of at lest one film selected from among a group of Au film, oxidized Au film, Ir film, oxidized Ir film, Ru film and oxidized Ru film.

19. A semiconductor device including a ground film and a crystalline insulation film provided on the ground film, the crystalline insulation film being formed of perovskite type oxide dielectric material,

wherein there is a (222) peak in an X-ray diffraction pattern of the crystalline insulation film, and another peak is present near the (222) peak.

20. A semiconductor device according to claim 19, wherein a diffraction angle 2θ of said another peak is about 81.8°.